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AUTHOR Schultz, Mathew W.
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ABSTRACT

The mental health community has become increasingly aware of the prevalence of childhood sexual abuse (CSA). A recent national survey found that 16% of adult males and 27% of adult females had experienced some type of CSA. This paper reviews the empirical literature in an attempt to answer the following questions: (1) Is CSA correlated with the diagnosis of posttraumatic stress disorder (PTSD) in adulthood?; and (2) If so, which CSA variables are associated with greater posttraumatic stress symptomatology? Research appears to indicate that there is indeed a significant correlation between CSA and the diagnosis of PTSD among adult females seeking treatment. Furthermore, current research also points to a number of specific CSA characteristics which have been found to be correlated with greater posttraumatic stress symptomatology among this population. These variables include physical contact; penetration or intercourse; use of force, violence, or threats; and the temporal variables of increased frequency of abuse, longer duration of abuse, and early age of onset. Various methodological problems are reviewed, the two-fold research question is addressed, and suggestions for future research are offered. Contains 36 references. (Author/JBJ)

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# POSTTRAUMATIC STRESS SYMPTOMATOLOGY IN ADULTHOOD AS A CLINICAL CORRELATE OF CHILDHOOD SEXUAL ABUSE: A REVIEW OF THE LITERATURE

by

Mathew W. Schultz

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Second Reader Date 12-16-95

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A Doctoral Research Paper

Presented to

the Faculty of the Rosemead School of Psychology

Biola University

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In Partial Fulfillment

of the Requirements for the Degree

Doctor of Psychology

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by

Mathew W. Schultz

May, 1995

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ABSTRACT

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This paper reviews the empirical literature in an attempt to answer the following questions: 1) Is CSA correlated with the diagnosis of posttraumatic stress disorder (PTSD) in adulthood? 2) If so, which CSA variables are associated with greater posttraumatic stress symptomatology? Research appears to indicate that there is indeed a significant correlation between CSA and the diagnosis of PTSD among adult females seeking treatment. Furthermore, current research also points to a number of specific CSA characteristics which have been found to be correlated with greater posttraumatic stress symptomatology among this population. These variables include physical contact; penetration or intercourse; use of force, violence, or threats; and the temporal variables of increased frequency of abuse, longer duration of abuse, and early age of onset. Various methodological problems are reviewed, the two-fold research question is addressed, and suggestions for future research are offered.

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# POSTTRAUMATIC STRESS SYMPTOMATOLOGY IN ADULTHOOD AS A CLINICAL CORRELATE OF CHILDHOOD SEXUAL ABUSE: A REVIEW OF THE LITERATURE

## Introduction

In recent years, the mental health community has become increasingly aware of the prevalence of childhood sexual abuse (CSA). A recent national survey (n = 2,626) found that 16% of adult males and 27% of adult females had experienced some type of CSA (Finkelhor, Hotaling, Lewis, & Smith, 1990). As awareness of the pervasiveness of this experience has increased, there has also been an influx of research which attempts to define the long-term effects of such abuse. In a fairly comprehensive review of the literature pertaining to the long-term impact of CSA, Beitchman et al. (1992) grouped the effects into several broad categories, including sexual disturbance, homosexuality, anxiety, depression, suicidality, revictimization, and various personality disturbances. Efforts to delineate specific symptoms have met with some success; yet there appears to be current consensus in the literature that proper identification and treatment of CSA in adulthood may depend upon delineating some type of common symptom pattern (or patterns) by which CSA manifests itself. While some researchers have made attempts to define a syndrome which broadly encompasses the various long-term effects of CSA (Briere & Runtz, 1987), others have attempted to utilize existing diagnostic categories to explain more narrowly defined aspects of its impact. CSA has been linked to diagnoses such as Major Depression (Stein, Golding,

Siegal, Burnam, & Sorenson, 1988), Borderline Personality Disorder (Barnard & Hirsch, 1985; Goodwin, Cheeves, & Connell, 1990), and Multiple Personality Disorder (Bliss, 1984; Coons & Milstein, 1986).

Most recently, however, Posttraumatic Stress Disorder (PTSD) has been postulated as a syndrome which may capture the essential elements of the long-term impact of CSA. Many authors have hypothesized that adult victims of CSA are likely to exhibit PTSD symptomatology since aspects of CSA seem to closely parallel other types of trauma which have been demonstrated to result in PTSD. In fact, a number of studies do appear to link CSA to the symptom pattern of PTSD. While numbers vary widely depending on population, some of these studies have reported PTSD rates among adult CSA victims to be as high as 100% (Holmes, 1989; Lindberg & Distad, 1985; Titus, 1991). If PTSD rates among CSA survivors even approached such numbers, this would represent a significantly higher rate of PTSD than the 1% to 14% that is estimated for the general population, and may even be higher than the 3% to 58% estimated for so-called "at risk" individuals such as war veterans (DSM-IV, APA, 1994, p. 426).

The clinical relevance of the relationship between CSA and PTSD, or of any attempt to define a clinical syndrome in adulthood which is linked to CSA, cannot be understated. It has already been demonstrated that CSA is highly prevalent in our society and that it can have chronic and pervasive effects on its victims. Determining the specific ways in which CSA may be manifested in adulthood should greatly influence treatment considerations.

It seems clear that understanding PTSD as a possible long-term clinical correlate of CSA will help the clinician in at least two fundamental ways. First, it would certainly be helpful for clinicians to understand that clients

with known histories of CSA may be suffering from symptoms of PTSD. It would alert the clinician to assess for that possibility, and if PTSD symptoms were found to be present, treatment could be adjusted accordingly. Though beyond the scope of this paper, there is a great deal of literature which describes the treatment of PTSD and supports the notion that various types of treatment are met with varying degrees of success. In other words, it is clear that the presence or absence of PTSD may require a separate level of treatment consideration for clients. Therefore, the importance of identifying such a symptom pattern is obvious. Second, if a link does indeed exist between CSA and PTSD, such information will be helpful for the clinician who is presented with a client who is suffering from symptoms of PTSD but has no known trauma history. In this event, CSA could be considered as a possible precursor for such symptomatology. In other words, if a link between CSA and PTSD were proven to exist, this would certainly broaden the clinician's assessment of possible etiological factors for PTSD, and as such, may prevent him from missing a treatment element as crucial as CSA. It seems clear that the presence or absence of such a link is well worth exploring from a clinical standpoint.

This literature review will attempt to answer two questions: 1) Is CSA linked to the diagnosis of PTSD in adulthood? and 2) If so, which characteristics of CSA are most clearly associated with later development of PTSD symptomatology? First, the methodological problems in this body of literature will be reviewed, then the two-fold research question will be addressed, and finally, conclusions regarding the existing research and suggestions for future research will be offered.

## Methodological Considerations

Though the studies examined in this literature review do appear to link CSA with later development of PTSD symptoms, there are a number of methodological problems which should be noted. While many of these problems are due in part to the recency and the pragmatic limitations of this particular field of study, they nonetheless limit the generalizability of the results and should be considered before any broad conclusions are offered with respect to this body of research. For the purposes of organization, these methodological problems can generally be divided into four basic categories. These categories include definitional problems, sampling problems, instrumentation problems, and other procedural problems.

### Definitions

One of the problems in reviewing this body of literature is that of defining terms. Both of the key terms, CSA and PTSD, are defined with considerable inconsistency. Though this problem is somewhat unavoidable due to changing definitions over time, this inconsistency does serve to complicate any overall conclusions which may be drawn from this research.

Childhood sexual abuse. The key difficulty with respect to definitions involves the conceptualization of the term "Childhood Sexual Abuse." The most obvious problem in this respect is that a number of researchers fail to define the term altogether, almost as if they are operating under the assumption that there is a clear-cut and widely accepted definition which should be obvious to the informed reader. Unfortunately, a brief perusal of the literature which does attempt to define CSA quickly reveals that there is no such consensus (Craine, Henson, Colliver, & MacLean, 1988; O'Neill & Gupta, 1991; Reichhold-Caruso, 1990; Ryan-Blaney, 1989). This term has

encompassed a wide range of interpretations and definitions in the last several years.

Though most of the literature is in agreement on the general features of CSA, it seems that the primary inconsistencies revolve around the inclusion of non-contact sexual abuse and the operationalization of the age discrepancy between victim and abuser (Greenwald & Leitenberg, 1990; O'Neill & Gupta, 1991; Roesler & McKenzie, 1994). In other words, most authors are in agreement that CSA involves some type of interaction between a child and an adult (or at least someone significantly older) in which that child is utilized as an instrument for sexual stimulation for either the perpetrator or someone else. While this type of broad definition would seem to include various non-contact sexual activities, a few authors further narrow the scope by limiting CSA to "physical contact" abuse, excluding such things as being a victim of exhibitionism, being forced to watch sex acts, etc. (O'Neill & Gupta, 1991). Furthermore, many authors propose that CSA must be characterized by a sufficient age discrepancy between victim and perpetrator (Greenwald & Leitenberg, 1990; O'Neill & Gupta, 1991; Roesler & McKenzie, 1994). Once again, however, selection of such an age discrepancy cut-off appears to be fairly arbitrary. Of the studies addressed in this review, only three specifically defined this cut-off, and though the age discrepancy only ranged from 4 to 5 years, this still points to the need to establish a more consistent definition of CSA.

In an effort to solve some of these definitional problems, a number of the authors choose to define the term CSA with a list of acts which they consider to be abusive (Reichhold-Caruso, 1990; Ryan-Blaney, 1989). Though this type of definition has the advantage of being specific and avoiding

ambiguity, it can also be problematic in that even the most comprehensive list of abusive behaviors is never all-inclusive. In other words, there is always the danger that a legitimate abuse victim will be excluded from such a definition.

Many of the articles addressed in this review also adopt a more narrow area of focus in that they deal specifically with incest rather than the more general category of CSA (Albach & Everaerd, 1992; Donaldson & Gardner, 1985; Holmes,1989; Lindberg & Distad, 1985). While it is appropriate to include incest victim studies in a literature review which addresses the broader category of CSA, it should be noted that findings with respect to incest victims may not necessarily be applicable to all CSA victims. Furthermore, although incest can generally be assumed to mean any type of CSA in which the perpetrator is a member of the victim's family, the operationalization of the term nonetheless introduces its own unique set of complications. Is it considered incest, for instance, if the perpetrator is a second-order relative such as an aunt, uncle, or cousin? Does this term encompass abuse from step-siblings, half-siblings, or grandparents? Unfortunately, these are questions which generally remain unanswered in the literature.

Posttraumatic Stress Disorder. The definition of PTSD also becomes problematic, not necessarily due to any inconsistency on the part of the authors, but due to continual modifications in the diagnostic criteria for the disorder. All of the studies encompassed in this review define PTSD based on the criteria provided by either the DSM-III (American Psychiatric Association [APA], 1980), or the DSM-III-R (APA, 1987). Unfortunately, all of these studies were completed prior to the publication of the DSM-IV (APA, 1994), which is now considered the current diagnostic standard. In other words, it is possible

that subjects who were diagnosed with PTSD according to prior guidelines may not be diagnosable as such under the updated guidelines.

To determine the extent of these complications, however, it is necessary to compare current and past diagnostic criteria to determine if significant differences do indeed exist. Fortunately, despite moderate changes, the central diagnostic criteria for PTSD has remained fairly stable throughout these publications. Generally speaking, PTSD has always been defined by the presence of three symptom categories which can be traced to a particularly traumatic event. These three symptom clusters are: reexperiencing the trauma in some way, avoidance of stimuli associated with the trauma, and increased arousal (though these symptoms are organized somewhat differently in the DSM-III [APA, 1980])

Despite the fact that this central definition is retained, there are nonetheless a few key differences. These differences appear insufficient to render previous research findings irrelevant by today's standards, but they are nonetheless worthy of consideration. While an extended analysis of the differences between various editions of the DSM with respect to PTSD criteria is beyond the scope of his paper, a brief overview of the central differences seems appropriate.

The most significant change in the DSM-III-R (APA, 1987), as compared to the DSM-III (APA, 1980), had to do with the addition of trauma-related avoidance symptoms as a necessary condition for diagnosis in the later edition. Though this avoidance symptomatology was present in the DSM-III criteria, it was neither a required element of the diagnosis, nor was it specifically related to the traumatic event. Furthermore, the arousal symptoms in the DSM-III are also couched in different terminology than that

of the DSM-III-R. Generally speaking, according to the DSM-III, a subject would need to experience either symptoms of avoidance or symptoms of increased arousal to be diagnosed with PTSD, but they would not necessarily need to experience both types of symptoms, as is required by the DSM-III-R. In other words, it is possible that some subjects who meet DSM-III criteria for PTSD may not meet DSM-III-R criteria for PTSD. On the other hand, the DSM-III-R also expanded the criteria for reexperiencing symptoms, which may have the opposite effect. Therefore, while it is true that the changes between the DSM-III and the DSM-III-R are minimal, it is also possible that a sample subjected to both sets of criteria may obtain two slightly different rates of PTSD.

It should also be noted that there are a few significant differences between the DSM-III-R (APA, 1987) and the DSM-IV (APA, 1994) criteria for PTSD. First of all, the DSM-IV redefines the experience of the trauma. The Fourth Edition adds that, at the time of the trauma "the person's response involved intense fear, helplessness, or horror. Note: In children, this may be expressed instead by disorganized or agitated behavior." (p. 428). Though seemingly insignificant, this new requirement may have impacted this body of literature since it may be difficult to discern retrospectively how the trauma was experienced at the time of the event. It may be that the adult subject would have very little recollection of their initial experience of an event (or events) which may have occurred several decades prior. In fact, the nature of PTSD symptomatology, particularly the avoidance of stimuli, which may at times resemble repressive phenomena, would seem to work against such recollection. The inclusion of this additional qualification regarding the subject's response is somewhat confusing in this respect and almost appears

to be inconsistent with the other diagnostic criteria. In any event, it is possible that this distinction may have resulted in a lower rate of PTSD diagnosis had it been applied to the study samples reviewed in the current paper.

The second point of discrepancy is found in the addition of the final criteria for PTSD in the DSM-IV (APA, 1994). The Fourth Edition adds criteria F, which states "The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning" (p. 429). It could be argued that such a distinction is generally irrelevant given the highly disruptive nature of the PTSD symptomatology. In other words, it seems very unlikely that anyone meeting the first five criteria would be excluded from the diagnosis because the disorder is not causing sufficient disruption in the individual's life. It is important to note this change, however, because once again it is possible (even if unlikely) that certain individuals who were diagnosed with PTSD by previous standards may not meet the criteria by current standards. This may be especially true of the few non-clinical samples studied in the literature.

Finally, the last change worth noting in the DSM-IV (APA, 1994) has to do with the inclusion of the additional diagnostic specification of "Acute" (if duration of symptom is less than three months) or "Chronic" (if the duration of symptoms is 3 months or more). This is similar to a distinction which was present in the DSM-III (APA, 1980), but abandoned in the DSM-III-R (APA, 1987). Its reintroduction in the DSM-IV clearly does nothing to constrict the relevance of previous research, but may actually add a dimension of interest for future research in this area. It would be interesting to determine, for instance, if CSA-related PTSD symptomatology is correlated with either

typology. Such a distinction would also be consistent with the many studies which assess both current and lifetime history of PTSD.

Overall then, it seems clear that both CSA and PTSD are defined with a fair amount of inconsistency. While these inconsistencies over time should be noted, it is also true that they are relatively minor, are unavoidable to some extent, and certainly do not render previous research irrelevant by today's standards.

Samples

Virtually all of the samples drawn for these studies are non-representative in some key respect. The most glaring limitations of the samples are the preponderance of subjects drawn from clinical settings and the preponderance of female subjects.

Clinical settings. Most, though not all, of the studies utilize non-random clinical samples. Though most of these samples are drawn from an outpatient rather than inpatient population, it is nonetheless questionable if such high rates of PTSD would be found among CSA survivors in the general population. It could certainly be hypothesized that those seen in clinical settings are likely to be experiencing greater trauma than those not seeking treatment. In fact, it will be shown that the results of the two studies that do utilize entirely non-clinical samples seem to support this hypothesis by finding lower PTSD rates than those cited for clinical samples (Greenwald & Leitenberg, 1990; Saunders, Villeponteaux, Lipovsky, Kilpatrick, & Veronen, 1992). This is certainly a limitation which needs to be addressed in future research on this topic.

Females. Another sampling problem which limits the generalizability of this body of literature is the fact that the vast majority of the subjects in

most samples are females. Given that research appears to demonstrate that a relatively high percentage of males have experienced sexual abuse (Finkelhor et al., 1990), it is notable that there are so few males represented in these studies. It could be that males are less likely to seek treatment or more likely to repress abuse memories, but these hypotheses need to be investigated more fully. In any event, it is clear that this underrepresentation of males definitely limits generalizability.

Other sampling problems. It should also be noted that none of the samples studied are adequately matched on demographic variables such as race, socioeconomic status, geography, etc. Again, these are all problems which limit the extension of research results to the general population.

Instrumentation

The third major area of difficulty has to do with the instrumentation utilized in these studies. Typically, researchers relied on self-report instruments for all levels of assessment. Such instruments were utilized both to determine the presence or absence of the PTSD diagnosis, as well as to assess the impact of specific CSA characteristics. In assessing the rate of PTSD diagnosis, researchers typically administered standardized interviews such as the Structured Clinical Interview for the DSM-III-R (SCID-R) (Spitzer, Williams, Gibbon, & First, 1990), the Structured Interview for Posttraumatic Stress Disorder (SIPTSD) (Davidson, Smith, & Kudler, 1989), or the PTSD Symptom Checklist (Foy, Sipprelle, Rueger, & Carroll, 1984), to name a few of the more common ones. As will be noted, however, some authors have also developed their own interviews specifically designed to measure PTSD criteria.

When assessing the impact of CSA characteristics, researchers often utilized additional instruments specifically designed to measure the severity of traumatic symptomatology. These include instruments such as the Trauma Symptom Checklist-33 (TSC-33) (Briere & Runtz, 1989), the TSC-40 (Elliot & Briere, 1992) or the Impact of Events Scale (IES) (Horowitz, Wilner, & Alvarez, 1979). It should be noted, however, that while these instruments are useful in attempting to quantify symptom severity, they are still relatively new and do not have the same level of reliability and validity which has been established by more well researched assessment instruments. Furthermore, while the data from the TSC or the IES may be helpful in corroborating PTSD symptoms, they do little to confirm the actual diagnosis.

Apart from the problems introduced with the use of author-developed instruments (i.e., researcher subjectivity), it is also clear that even the use of well-standardized self-report instruments raises some questions as to the accuracy of the research results. Generally speaking, most of these measures appear to have a high degree of face validity, which creates at least two key problems for interpreting the results. First, interview questions which are specifically designed to measure PTSD symptomatology may lead the subject to respond more affirmatively. Secondly, the self-report nature of such instruments forces the researchers to rely on the credibility of their subjects. Subjects may tend to overreport (trying to please the interviewer) or underreport (perhaps utilizing a defensive coping strategy) without the researcher ever having any indication of such inaccuracies. While the self-report nature of this body of research is largely unavoidable, it is nonetheless worthy of consideration when interpreting research results.

Other Procedural Problems

In addition to the methodological considerations described above, this body of literature is also hindered by several further procedural problems. These problems include lack of controls, use of retrospective studies, and use of inconsistent time frames for measurement of PTSD symptoms.

Lack of controls. One problem with this body of research is the fact that people with CSA histories are often subject to numerous variables which could potentially contribute to the development of PTSD (e.g., severe physical and/or emotional abuse). Therefore, it is difficult to infer that CSA causes PTSD simply on the basis of high correlations.

Nonetheless, the difficulty presented by this issue (as well as the difficulty presented by many of the sampling problems) could have been limited to some degree by the more frequent utilization of control groups which match the study groups with respect to demographic variables and other types of trauma experiences. Unfortunately, the majority of the studies reviewed in this paper offer no such controls. Some authors even argue that utilization of a control group would be impossible given the fact that the PTSD diagnosis presupposes a history of a severe stressor (Greenwald & Leitenberg, 1990). The logic of this argument is not quite clear, however, since control groups have been utilized in the past. Additionally, such control groups could consist of people who have experienced some type of significant trauma other than CSA. Again, though establishing control groups is difficult in any setting, the absence of such controls does limit the generalizability of the research results.

Retrospective studies. An additional limitation of this body of literature is that the vast majority of the studies completed at this point are

retrospective rather than longitudinal. This, of course, again raises the question of the accuracy of a subject's self-report of an incident (the CSA) which occurred several decades previously. Furthermore, as many of the studies assess the lifetime history of PTSD symptomatology, it should be asked whether subjects can recall previous symptoms with enough accuracy to warrant a retrospective diagnosis of PTSD. Again, however, this problem is somewhat unavoidable as the relative newness of this area of research would have precluded most longitudinal efforts.

Inconsistent time frames. Though not a methodological error, another problem worth noting in this body of literature is that there seems to be much inconsistency as to the time frame under which PTSD symptoms are measured. Researchers may assess only current PTSD symptoms, only PTSD symptoms for the last few months, lifetime PTSD symptoms, or may not even specify the time frame. The time frame utilized is an important issue to consider since it can be assumed that studies which incorporate a longer time frame will more than likely report a higher rate of PTSD than those limited to only current or very recent symptomatology. Again, though this is not necessarily a methodological error, per se, it is an inconsistency which makes it more difficult to generalize across studies.

In summary, it does appear that there are several methodological problems which severely limit the generalizability of studies which attempt to link CSA with the development of PTSD symptomatology in adulthood. While some of these problems were unavoidable, others could have been minimized through the use of more rigorous research methods. It is hoped that many of these methodological considerations will be addressed as the research on this topic continues to grow. While it is true that this field of

study is in its infancy and, as such, is hindered by numerous problems, it is also true that these problems do not invalidate the current research findings. This body of research does appear to be at least adequate to support some preliminary hypotheses as to the relationship between CSA and PTSD.

## CSA as a Precursor to the Diagnosis of PTSD in Adulthood

For the purposes of this review, it is first necessary to answer the question of whether or not CSA is related to the overall diagnosis of PTSD. Percentage rates have varied in this respect, with studies obtaining anywhere from a 4% (Greenwald & Leitenberg, 1990) to 100% (Holmes, 1989; Lindberg & Distad, 1985; Titus,1991) rate of PTSD among CSA victims. Since the majority of the studies reviewed deal with females seeking treatment, this group will be addressed first as a separate category, followed by a brief examination of the sparse literature pertaining to both the non-clinical and male populations.

### Clinical Female Samples

It appears that the studies addressing clinical female samples can be grouped into two broad categories; those that deal specifically with incest victims, and those that address the more general category of CSA victims. Studies which deal with incest survivors will be addressed first since they represent the most clearly defined group of CSA victims addressed in this body of literature.

Incest samples. There seems to be ample evidence to support the hypothesis that childhood incest is related to the development of PTSD in adulthood. In 1985, Donaldson and Gardner examined a clinical sample of 26 adult female victims of childhood incest and discovered that 25 of them (96%) currently met DSM-III (APA, 1980) criteria for delayed or chronic PTSD.

Though this percentage is impressively high, it should be noted that this sample was drawn from the senior author's outpatient case load and no description was given regarding the interview procedure. Of course, if the senior author was involved in interviewing subjects who were also his clients, the possibility of some type of contamination would certainly exist. Nonetheless, given the high percentage of PTSD diagnosis, as well as the fact that the senior author's diagnostic impressions were corroborated by a second clinician, the results of this study do appear to support a positive correlation between childhood incest and current PTSD.

As previously stated, a few studies have reported PTSD rates as high as 100% for their adult incest victim samples. Lindberg and Distad (1985), for example, interviewed 17 outpatient women who were victims of childhood incest. They found that all of these women currently met DSM-III (APA, 1980) criteria for PTSD. Furthermore, Holmes (1989) also reported that 100% of a clinical sample of 62 adult female incest survivors met DSM-III-R (APA, 1987) criteria for PTSD.

Finally, in a more recent study Albach and Everaerd (1992) found that 62% of their sample of 97 adult female incest victims currently met DSM-III-R (APA, 1987) criteria for PTSD. Despite obtaining a lower PTSD percentage rate, this study does appear to have been designed more rigorously than those described above and may provide more compelling evidence for the link between childhood incest and PTSD. The primary strength of this study rests in the fact that the researchers utilized a control group of 65 non-incest victim females who were matched to the study group on the variables of sex, age, race, educational level, and social background. None of the controls were found to meet the criteria for a PTSD diagnosis. Generally speaking, though

the above results do not address the question of whether incestuous abuse is more highly related to later development of PTSD than non-incestuous sexual abuse, they do appear to provide evidence linking childhood incest to PTSD among female outpatient adults.

General CSA samples. Having demonstrated some relationship between childhood incest and the later presence of PTSD, the next question is whether or not this relationship also exists in samples which fall under the more broad category of CSA victims. In other words, can the same link be found in samples which include victims of non-incestuous abuse? Once again, there appears to be ample evidence to support such a hypothesis.

Craine et al. (1988) found that 36 (64%) of their sample of 54 female psychiatric inpatients who were victims of CSA met DSM-III (APA, 1980) criteria for current PTSD. A problem with this study, however, has to do with the fact that the age range of the parent sample (not distinguished demographically from the CSA subsample used for this study) was 13 to 81. While it is likely that most subjects were adults, the presence of young adolescents in the sample does prevent the generalizing of these findings to a strictly adult population. Furthermore, the use of an inpatient sample is likely to introduce a number of possible contaminants (e.g., fully half of the CSA victims in this sample had also been physically abused). Also, the fact that 21 of the CSA victims were diagnosed with schizophrenia may call into question the validity of the subject's self-report of incidents that may have occurred years or even decades earlier. Therefore, while the results of this study appear to support the link between CSA and PTSD, it does have limited generalizability.

In 1991, O'Neill and Gupta found that 19 (73%) of their sample of 26 outpatient female CSA victims met DSM-III-R (APA, 1987) criteria for PTSD (either current or lifetime). Though this study generally appeared to be designed adequately, there were still a few methodological problems worth noting. First, the authors utilized a narrower definition of CSA than that which is common in the literature. They excluded any type of non-physical contact in their definition. As will be demonstrated later, there is some evidence which suggests that CSA which includes physical contact is linked to greater PTSD symptomatology (Saunders et al., 1992). Therefore, it seems reasonable to speculate that a study which includes only CSA victims who experienced physical contact may result in a higher rate of PTSD diagnoses. Furthermore, these authors were also hampered by the same difficulty as Craine et al. (1988) in that their subject pool included adolescents (in this case the ages ranging from 15 to 43). This was done despite the fact that the authors were purporting to study "women" (p.124). Again, this makes it difficult to assume that the results are characteristic of the adult population in general.

As with the literature addressing incest samples, there is also existing research which finds an extremely high rate of PTSD among this more general population of CSA victims. Titus (1991) concluded that PTSD could be diagnosed in each of the 20 female subjects in a sample of outpatient adult CSA victims.

Finally, in a 1994 study, Rowan, Foy, Rodriguez, and Ryan examined a sample of 42 outpatients (this study is included in this section due to the fact that 94% of the sample was female). The researchers utilized two structured interviews to assess for a diagnosis of PTSD. Both the SCID (Spitzer et al.,

1990) and the PTSD Symptom Checklist (Foy et al., 1984) were administered to the subjects. According to the results of the SCID, it was found that 69% of this sample met the full DSM-III-R (APA, 1987) criteria for current PTSD. Similarly, the PTSD Symptom Checklist identified 64% of the subjects as meeting current PTSD criteria.

Despite the methodological problems identified in the above studies, there is evidence to suggest that CSA is correlated with a diagnosis of PTSD among certain clinical populations of female adults. The question now to be addressed is whether or not this relationship exists among non-clinical or male samples.

Non-Clinical Female Samples

In the data reviewed for this paper, only two studies utilized purely non-clinical samples. As might be expected among this population, a 1990 study by Greenwald and Leitenberg found much lower rates of PTSD in their non-clinical sample of 54 adult female CSA victims (consisting entirely of medical nurses living in New England). The authors developed a questionnaire which assessed both the presence and frequency of PTSD symptomatology. Utilizing a cut-off score of two (which indicated that symptoms had been experienced "moderately") on a four point scale, they found that only 4% would meet DSM-III-R (APA, 1987) criteria for current PTSD, while 17% would appear to have met the criteria at some point in the past. Even when the cut-off was lowered to one (indicating that a subject experienced the symptom only "a little bit"), the percentages increase to only 20% and 41%, respectively. While such a rate of PTSD is still significant given that it is higher than estimates of the prevalence of PTSD in the general population, it is still a great deal lower than the rate found in clinical

populations. While these findings have limited generalizability due to the unrepresentativeness of the sample, they do appear consistent with the hypothesis that PTSD will be less prevalent in non-clinical populations. Furthermore, this study also calls into question the type of severity criteria which may have been used in other studies. Though PTSD symptom criteria seem fairly clear-cut, this study design does limit the potential for interviewer subjectivity which may have entered into the assignment of diagnoses in other studies.

In the only other study which utilized a purely non-clinical sample, Saunders et al. (1992) assessed 391 adult female residents of Charleston County, South Carolina. Though this sample was drawn from a randomly selected parent sample (from a previous study), there was no data reported with respect to whether their sub-selection procedures were also random. Of their sample, 131 reported having been victims of some type of CSA prior to age 18. Of these, the authors found that 37% had met DSM-III (APA, 1980) criteria for PTSD at some point in their lives.

As expected, both Greenwald and Leitenberg (1990), and Saunders et al. (1992) found the rate of PTSD to be lower in non-clinical populations than had previously been reported in clinical populations. While these findings may call into question the overall generalizability of studies done with clinical samples, this seems to have little impact on the clinical relevance of this issue. As discussed at the outset, the clinical relevance of this body of literature hinges on increasing the clinician's awareness (and subsequent ability to treat) issues which may not be immediately apparent. Therefore, if it can be established that higher PTSD rates exist among the clinical

population, it makes little difference to the clinician if this finding does not extend to include the non-clinical population.

Male Samples

As with the non-clinical population, the literature which addresses the link between CSA and adult PTSD symptomatology among males is also sparse. Lane (1992) studied a sample of 57 male sex offenders in Tennessee who had also been sexually abused as children. This sample was drawn from a parent sample of 100 male sex offenders, 88% of which were incarcerated at the time of the study and 73% of which were currently in treatment for the sex offending behavior. In addition to being interviewed for PTSD symptoms, subjects were also given the IES (Horowitz et al., 1979) to assess the presence and severity of intrusiveness or avoidance symptoms, the results of which will be given more attention when assessing specific CSA variables. The study found that 33% of these subjects would have met DSM-III-R (APA, 1987) criteria for PTSD at some point in their lives following the abuse. She also found, however, that only 5% met the criteria for current PTSD.

In a study which seems to contradict Lane (1992), however, Gonzalez (1994) reported that 61% of a sample of 67 male victims of CSA (non-perpetrators) also met DSM-III-R (APA, 1987) criteria for current PTSD. As part of a battery of tests to assess overall symptomatology, subjects were administered two PTSD symptom checklists (one author-developed), as well as the TSC-40 (Elliot & Briere, 1992). This study also had the significant added advantage of utilizing a control group of 48 non-sexually abused male adults. As might be expected, the CSA group demonstrated a significantly higher level of overall symptomatology than the non-CSA group.

Though Lane (1992) reports a much lower rate of PTSD than is generally reported in the literature on clinical female samples, these results are tempered to some degree by the Gonzalez (1994) study. It is difficult to discern why the there was such a discrepancy between the two. In part, this may have been due to the fact that different measuring instruments were utilized in each study. It is also worth noting, however, that Lane's sample primarily consisted of incarcerated male sex offenders. It is possible, for instance, that the presence of such concomitants as anti-social personality disorder (which might be expected in such a population, though this information was not specifically reported) could serve to somehow dampen or overshadow PTSD symptomatology. In any event, however, it is clear that both of these studies reported PTSD rates which are much higher than that found in the general population.

Generally speaking, despite numerous methodological problems, the data do appear to demonstrate a relationship between CSA and PTSD among certain clinical female populations. It should be noted, however, that the paucity of literature on both male and non-clinical populations renders it difficult to make any strong conclusions about this relationship with respect to these significant CSA subgroups.

Characteristics of CSA Associated With PTSD Symptoms in Adulthood

The data examined to this point seem to suggest that there is a positive correlation between CSA and PTSD among certain clinical populations. Although even this relationship may be questioned on the basis of inadequate sampling or other methodological problems, the research does seem compelling enough to warrant exploration of the relationship between

specific abuse characteristics and the subsequent development of PTSD symptomatology. Though many researchers who have attempted to address this question have met with inconclusive results, there are a number of factors which have found some support in the research. While the CSA characteristics addressed in the literature are numerous and cover a wide array of abusive situations, they typically fall into three general categories, each of which has been addressed with varying degrees of success. They are: perpetrator characteristics (Gonzalez, 1994; Greenwald & Leitenberg, 1990; Lane, 1992; O'Neill & Gupta, 1991; Roesler & McKenzie, 1994; Ryan-Blaney, 1989), characteristics of the abusive act (Cameron, 1994; Lane, 1992; Greenwald & Leitenberg, 1990; O'Neill & Gupta, 1991; Roesler & McKenzie, 1994; Saunders et al., 1992), and temporal characteristics (Alexander, 1993; Holmes, 1989; Lane, 1992; O'Neill & Gupta, 1991; Rowan et al., 1994; Ryan-Blaney, 1989).

Perpetrator Characteristics

Much of the research on perpetrator characteristics has been inconclusive (O'Neill & Gupta, 1991; Ryan-Blaney, 1989). Though the literature has addressed numerous variables in this respect, very few have been found to be even moderately related to PTSD. The variable in this category which has probably been given the most research attention is that of the perpetrator's relationship to the victim.

Relationship to victim. The question of whether or not incestuous abuse results in more or less posttraumatic stress symptomatology has not clearly been answered by existing studies. There is some evidence to indicate that incestuous abuse may be linked to higher rates of PTSD symptomatology, but this evidence is minimal.

In their 1990 study, Greenwald and Leitenberg did find that the rate of current PTSD was significantly higher for those who were abused by their fathers as opposed to those who were abused by other relatives (50% vs. 15%; $p < .05$) or non-family members (50% vs. 13%; $p < .05$). This finding was based, however, on a cut-off score of one, which included those subjects who reported experiencing various PTSD symptomatology only "a little bit" (p. 217). When they utilized a cut-off score of 2, which included only those subjects who experienced PTSD symptoms at least "moderately," no significant relationships were found among these variables (p. 217). Furthermore, no significant relationships were detected (using either a cut-off score of one or two) when analyzing past PTSD. Lane (1992), also found that a "close relationship to the perpetrator" was indeed predictive of PTSD ($p < .05$) (p. 82). The author did not, however, specifically define what was meant by the term "close relationship." Overall then, it can be seen that, although there is some indication that closer relationships to the perpetrator may result in greater the levels of PTSD symptomatology, the evidence is not yet convincing.

Other variables. While variables such as increased number of perpetrators (Gonzalez, 1994; Roesler & McKenzie, 1994) and same-sex perpetrators (Lane, 1992) have also been linked to higher levels of PTSD symptomatology, the evidence in this respect is even more sparse than the evidence pertaining to the perpetrator's relationship to the victim. This area of perpetrator characteristics offers some interesting but seemingly inconclusive initial results and is clearly in need of further investigation.

Characteristics of the Abusive Act

In contrast to perpetrator characteristic variables, certain characteristics of the abusive act seem to be more firmly supported by the research as being positively correlated with PTSD symptomatology. For the purpose of this review, these variables have been subdivided into the categories of physical contact, intercourse/penetration, and force/violence/threats.

Physical contact. Broadly speaking, the factor which seems to be most clearly supported in the literature is that of physical contact. Saunders et al. (1992) found significant differences with respect to the presence of physical contact. The authors categorized their non-clinical sample of 131 adult female CSA victims with respect to three general types of abuse: non-contact sexual abuse, molestation, and rape. They found that only 11.4 % of those respondents who had experienced non-contact abuse (n=35) met the DSM-III (APA, 1980) criteria for PTSD at some point in their lives. When analyzing the molestation (n=57) and rape (n=39) groups, they found that each of these abuse types were related to statistically significant increases in the rate of lifetime PTSD. They found that the incidence of lifetime PTSD increased to 33% with the molestation victims ($p < .05$) and 64% for the childhood rape victims ($p < .001$).

Furthermore, Lane (1992) also determined that those subjects who experienced what was identified as "body violation" were found to have a significantly higher degree of traumatic symptomatology according to IES scores ($p < .001$) (p. 140). This result also provides moderate corroboration of the hypothesis that sexual abuse which involves bodily contact is associated with a higher level of PTSD symptomatology. Given that there is some evidence to demonstrate that PTSD symptomatology increases when abuse

includes physical contact, the next question becomes whether or not certain types of physical contact are more likely to cause PTSD symptoms than other types.

Intercourse/penetration. In addition to the findings of Saunders et al. (1992), indicating that childhood rape is more highly correlated with lifetime PTSD than either non-contact CSA or molestation, there are other studies which corroborate the hypothesis that CSA which includes penetration or intercourse is linked to higher rates of PTSD symptomatology.

Using a cut-off score of two to indicate "moderate" symptomatology, Greenwald and Leitenberg (1990) found that the prevalence of past PTSD was much higher for those CSA victims who experienced attempted or completed intercourse ($P<.01$) (p. 217). In addition, O'Neill and Gupta (1991) found that those CSA victims who met criteria for PTSD were more than three times as likely to have experienced penetration as part of their abusive experience than those CSA victims who did not meet PTSD criteria ($p < .005$).

While the above studies dealt with female subjects, Lane (1992), in studying a sample of previously abused male sex offenders, also found that being penetrated anally was correlated to both greater PTSD symptomatology, past ($p < .05$), present ($p < .01$), and lifetime ($p < .01$), as well as the actual PTSD diagnosis, both past ($p < .05$), and lifetime ($p < .05$). Conversely, however, it was found that those male subjects who penetrated their abusers were less likely to experience present PTSD symptoms ($p < .05$), perhaps because penetration of the perpetrator was also positively correlated with arousal ($p < .01$). As might be expected, the overall evidence does appear to suggest a positive correlation between the abuse variable of intercourse/penetration and PTSD symptomatology.

Force/violence/threats. In a recent study, Roesler and McKenzie (1994) examined a sample of 188 adult victims of CSA. Their sample consisted of 168 females (89%), and was primarily non-clinical (77%). Though they did not assess for actual rates of PTSD, they utilized both the TSC-40 (Elliot & Briere, 1992) and the Posttraumatic Stress Disorder Syndrome and Dissociation Checklist (Coons, Cole, Pellow, & Milstein, 1990) to assess the contribution of CSA variables to PTSD symptomatology. According to the results of the checklist, they found that both the use of force and the use of threats were positively correlated with increased PTSD symptomatology ($p < .0005$, and $p < .05$, respectively). They also found that overall trauma symptomatology on the TSC-40 was significantly correlated with use of force ($p < .001$)

In a recent longitudinal study, Cameron (1994) examined 51 outpatient female CSA victims in an effort to compare their symptomatology with that of Vietnam War veterans (though the comparison of veterans was limited to a literature review rather than an actual comparison study group). This sample group originally consisted of 72 females who responded to an author-developed questionnaire in 1986, but only the 51 who also responded to the 1992 follow-up questionnaire were included in the comparison. Among many similarities between veterans and CSA survivors, the author found that the level of violent exposure was linked to greater PTSD symptomatology, though this only achieved statistical significance for the 1992 responses ($p < .05$). What the author means by "violence" in this context, however, is not clearly defined (p. 129). It appears that the subjects were allowed to define this term for themselves, which is certainly

problematic since a term such as "violence" will likely encompass a wide variety of subjective definitions.

Finally, Lane (1992) found that those CSA victims who were physically forced were more likely to be diagnosed with PTSD ($p < .001$). Taken together, there appears to be adequate evidence to suggest that, at least among certain populations, the inclusion of force, violence, or threats in the CSA experience may be linked to development of PTSD symptomatology. Overall, the literature appears to indicate that increased PTSD symptomatology is at least moderately related to certain characteristics of the abusive act. These characteristics include physical contact, intercourse/penetration, and force/violence/threats.

Temporal Characteristics

As with the characteristics of the abusive act, certain temporal characteristics also seem to be related to increased PTSD symptoms. It appears that the temporal variables associated with higher levels of PTSD symptomatology include duration, frequency, and age of onset.

Duration. The majority of authors addressing this issue have hypothesized that longer duration will lead to greater PTSD symptoms, and this has been borne out in the literature to some degree. O'Neill and Gupta (1991) found that a longer duration of abuse was moderately related to the diagnosis of PTSD in adulthood. It should clearly be noted, however, that this variable only obtained a significance level of $p < .1$, which is generally not considered to be statistically significant despite the fact that it was reported as such by the authors. Similarly, Lane (1992) found a positive relationship between longer duration of the abuse and the diagnosis of PTSD ($p < .05$). Finally, Rowan et al. (1994) found that longer duration of the period of abuse

was positively correlated with both a PTSD diagnosis on the SCID (Spitzer et al., 1990) ($p < .05$), as well as overall symptom intensity as measured by the IES (Horowitz et al., 1979) ($p < .05$). Taken together, the data do seem to indicate that CSA which occurred over a longer period of time will be more likely to result in PTSD.

Frequency. The variable of CSA frequency is, of course, closely related to that of duration. Many researchers hypothesized that if PTSD symptomatology increased with the duration of the abusive experience, it could be expected to increase with the frequency of CSA. In addressing this issue, O'Neill and Gupta (1991) found that the frequency of abuse demonstrated a moderate association with later diagnosis of PTSD (though, as with duration, this relationship also failed to reach statistical significance with a $p < .1$). Rowan et al. (1994) provided even greater evidence of this relationship, finding that increased frequency of abuse was indeed positively correlated with a current diagnosis of PTSD ($p < .05$).

In addition to the above data, Ryan-Blaney (1989) studied 95 female members of an incest survivors group (ages 17-69). Though the purpose of the study was not to assess the rate of PTSD diagnosis, it did attempt to assess the level of PTSD symptomatology through the use of the author-developed Ryan-Blaney Incest Questionnaire. The study attempted to assess multiple CSA variables to determine their relationship to current PTSD symptomatology. Though very few of the variables achieved a statistically significant relationship, it was found that a higher frequency of abuse was significantly related to total PTSD symptomatology ($p < .05$). It was also found that total PTSD symptomatology increased in direct proportion to the number of sex acts involved in the CSA ($p < .001$), though it is not clear how this

variable was specifically distinguished from the variable of frequency. It should be noted that since the Ryan-Blaney Incest Questionnaire had not previously been utilized, its validity and reliability had not been established, and though the instrument appeared to have adequate internal consistency, there is still some question as to the validity of the test results. Nonetheless, despite these reservations, the data from this study does offer further indication that increased frequency of abuse may indeed be related to greater PTSD symptomatology.

Age of onset. In addition to the data regarding duration and frequency, age of onset has also been addressed as a potential variable impacting later development of PTSD symptomatology. Generally, authors have hypothesized that earlier age of onset will lead to greater PTSD symptomatology. Along with the other temporal variables, Rowan et al. (1994) also investigated age of onset. Although they found no significant relationship between age of onset and actual PTSD diagnosis, they did find that earlier age of onset was related to both avoidant and intrusive symptom intensity as measured by the IES (Horowitz et al. 1979) ($p < .05$).

Holmes (1989) assessed a number of abuse variables to determine their relationship to overall PTSD symptomatology. This study utilized the SCID-R (Spitzer et al., 1988) to assess PTSD symptomatology, and though few of the variables were shown to have statistical significance, there were some interesting results with respect to age of onset. Subjects were divided into three age groups: those whose abuse began prior to age 6 ($n = 29$), those subjects whose abuse began in the age range of 6 to 9 ($n = 16$), and subjects whose abuse began in the age rage of 10-13 ($n = 15$), with the two remaining subjects whose abuse began after the age of 13 being placed in a separate

category which was not amenable to statistical analysis. It was determined that those subjects whose abuse began prior to age six exhibited greater PTSD symptomatology than the other groups, significantly more so than those subjects whose abuse began between the ages of 10-13 ($p < .05$). While the results of this study are far from conclusive, they do provide some evidence to suggest that younger age of onset leads to greater PTSD symptomatology.

Finally, in a 1993 study by Alexander, a group of 112 non-clinical female victims of childhood incest were studied to the determine long-term effects of their abusive experience. As with the study cited above, the purpose of this study was not to assess actual rates of PTSD diagnosis, but rather to assess current levels of PTSD symptomatology and CSA variables which may be associated. The IES (Horowitz et al. 1979) was again utilized to measure intrusion and avoidance and it was found that earlier age of onset was associated with both categories ($p < .0001$ and $p < .05$, respectively).

Despite the findings of Rowan et al. (1994), Holmes (1989), and Alexander (1993), however, it does seem valid to question whether subjects can accurately recall the specific time at which their abuse began, especially when it reportedly began prior to age six (as was the case with the Holmes study). This concern underscores the importance of researchers attempting to obtain corroborative evidence (in addition to subject self-report) of CSA history if at all possible. This is a precaution which has been taken only infrequently in the research to date, most likely due to the pragmatic difficulty of procuring such data. Nonetheless, despite this reservation, it does seem that the studies alluded to provide moderate evidence that earlier age of onset is at least associated with the PTSD symptomatology of intrusiveness and avoidance.

In this section, the data have been reviewed with respect to the impact that specific CSA variables may have on later development of PTSD symptomatology. A number of variables have been shown to be related to PTSD symptomatology. The evidence with respect to perpetrator characteristics appears insufficient to draw conclusions on this complex relationship. With respect to characteristics of the abusive act, however, the CSA variables of physical contact, intercourse/penetration, and force/violence/threats are all moderately related to increased PTSD symptomatology in adulthood. With respect to temporal characteristics, it has also been shown that longer duration, increased frequency of abuse, and earlier age of onset are all related to higher rates of PTSD symptomatology in adulthood. Though a number of other CSA variables have been studied in the literature, only those addressed above appear to have sufficient research support to suggest a relationship with PTSD symptomatology.

## Conclusions

The goal of this paper was two-fold: 1) to determine whether or not childhood CSA is indeed linked to the actual diagnosis of PTSD, and 2) if so, to determine those CSA variables which are more highly related to PTSD or PTSD symptom intensity. It should first be noted that there are numerous methodological problems which hamper his body of literature. Nonetheless, with respect to the nature of the relationship between CSA and the diagnosis of PTSD, there does appear to be a significant amount of research which suggests that female CSA victims seeking psychological treatment are found to be diagnosed with PTSD at a much higher rate than that of the general population. With respect to specific CSA variables associated with greater

PTSD symptomatology, there appear to be certain CSA variables which are related to increased PTSD symptomatology, though each of these is in need of further corroboration. Currently, it appears that the following CSA variables may be related to increased PTSD symptomatology, at least among the clinical female population: physical contact with the perpetrator, intercourse/penetration by the perpetrator, use of violence/force/threats by the perpetrator, longer duration of the CSA period, increased frequency of CSA, and early age of CSA onset.

It seems appropriate for clinicians to assess for PTSD symptomatology in clients who report a history of CSA, especially if this abuse history is characterized by the aforementioned variables. If a female client reported a history of repeated forced sexual intercourse beginning at age five, for example, this client may also experience PTSD symptomatology. The clinician, having PTSD criteria in mind in such a case, may be alert to the client's reexperiencing of the event, avoidance of stimuli associated with the trauma, or increased arousal (DSM-IV [APA, 1994]). If it was determined that the client meets all or some of the criteria for PTSD, treatment should be adjusted accordingly since the CSA victim with such symptoms may need significantly different treatment than the CSA victim without them.

In another scenario which is perhaps less likely and may require more discretion on the part of the clinician, it may be that certain clients will present with PTSD symptomatology which appears to have unknown origin. A clinician may, for example, encounter a female client who exhibits extreme anxiety (perhaps even bordering on panic) in connection with her sexuality (thoughts, feelings, etc.), or even in relationships with men in general. The client may go to extreme lengths to avoid sexual situations and may evidence

numerous arousal symptoms which do not appear to be directly tied to sexuality. In this situation, it would be reasonable for the clinician to at least consider and further explore the possibility of CSA, dealing with it in the treatment if it were found to exist. Of course, the clinician should be careful to look for corroborating evidence of CSA, hopefully thereby avoiding the temptation to offer convenient symptom explanations to the vulnerable client who may accept such suggestions indiscriminately in order to reduce anxiety. In any event, however, it seems that awareness of the relationship between CSA and PTSD may provide the clinician with a conceptual framework in which to make sense of complex symptoms.

Though it may seem that the abuse variables reviewed in this paper are all somewhat obvious, it should be remembered that the research efforts to tease out the relationship of CSA to adult PTSD symptomatology are relatively new and the importance of the efforts should not be disregarded for lack of impressive statistical results. Certainly, further research is needed to corroborate the relationship between CSA and PTSD. This would include research both to support the concept that the PTSD diagnosis is a helpful and accurate conceptualization for victims of CSA, as well as further research to corroborate and extend the existing evidence with respect to specific abuse variables that are more likely to result in PTSD symptomatology.

It is also hoped that future research will attempt to address some of the research deficiencies noted in the methodological section of this paper. Specifically, more research is needed which utilizes both nonclinical and male populations, as well as research which places greater emphasis on sound procedures such as utilization of control groups or use of more sophisticated measurement instruments. Though the data to this point may seem rather

limited, it does appear to support a relationship between CSA and adult PTSD. Though the specific nature of this relationship has yet to be clarified, the existing literature represents a good research base for a very complex and important subject.

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VITA

NAME:

Mathew W. Schultz

EDUCATION:

| | | |
|---|---|---|
| Rosemead School of Psychology<br>Clinical Psychology | Psy.D. | (Cand.) |
| Rosemead School of Psychology<br>Clinical Psychology | M.A. | 1994 |
| Northwestern College<br>Psychology | B.S. | 1990 |

PRACTICA:

| | | |
|---|---|---|
| Biola Counseling Center<br>Outpatient Program | 1994 - | present |
| Whittier Union High School District | 1993 - | 1994 |

EMPLOYMENT:

| | | |
|---|---|---|
| W. A. B, F. Counseling Services<br>Counselor | 1994 - | present |
| Orange County Community College District<br>Program Counselor | 1994 - | 1994 |
| Whittier Union High School District<br>Consultant | 1994 - | 1994 |
| Yorba Hills Hospital<br>Mental Health Specialist | 1992 - | 1994 |
| Riverside Medical Center<br>Psychiatric Technician | 1990 - | 1992 |